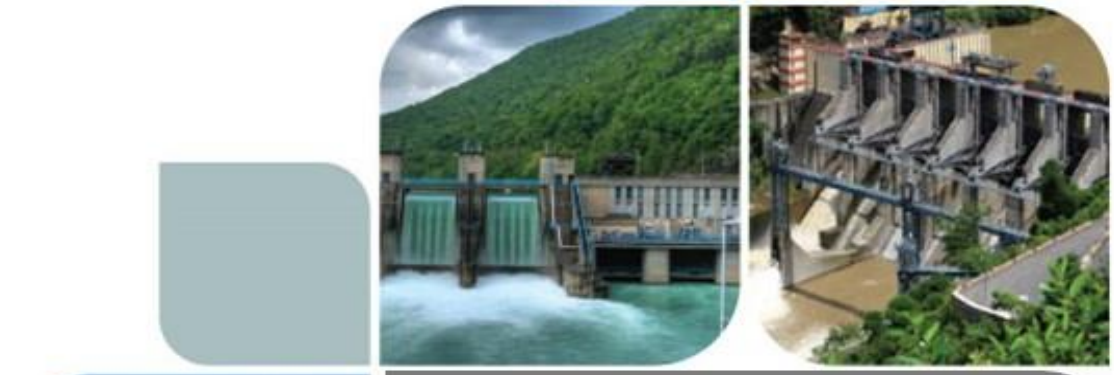

Risk Management Policy

2023

UJVN LTD.

Contents

1. Background

UJVN Limited is a state public sector undertaking fully owned by Government of Uttarakhand (GoU). Formed in 12th February 2001 under the 1956 Companies act, the company has been entrusted with the responsibility of developing and operating hydro generating units in the state of Uttarakhand. The current operational hydro capacity as on 27.04.2023 is 1417.85 MW comprising of 1372.15 MW of large hydro projects and 45.7 MW of small hydro projects. The Company has also commissioned solar PV based power plants across its different offices/ Project areas totaling an installed capacity of 26.54 MW.

Hydro Generation is one of the riskiest project especially on account of environment impact, geological surprises, hydrological surprises, besides the other general risk associated with the industry. The company acknowledges the fact that there has to be a company level policy that aims for early identification and sustainable mitigation of the same on a proactive basis. The same is also a requirement under Section 134(3)(n) of the Companies Act 2013 that mandates a statement to be included in the report of Board of Directors **("Board")** of UJVN Limited **("UJVNL" or the "Company")** indicating development and implementation of a risk management policy for the company including identification therein of elements of risk, if any, which in the opinion of the Board may threaten the existence of the company. The company has therefore formulated the Risk Management Policy to meet the aforesaid requirement.

2. Key Objectives of the Policy

The Company recognizes the need to put an efficient risk management policy as well as adopt processes which enable self-regulation of the business and ensure that business is conducted in a risk conscious manner. In view of the above considerations, the company has identified the following objectives for the risk management policy:

1. **Early Identification:** To establish a continuous process which facilitates early identification of current and future risks that can impact the company materially
2. **Uniform Risk Mitigation Approach:** To ensure implementation systematic and uniform risk identification, assessment and mitigation approach throughout the Company
3. **Compliance:** To ensure compliance with appropriate regulations and improve corporate governance by adoption of best practices.
4. **Shareholder responsibility towards:** To protect and enhance shareholder's value.

3. Scope and Applicability of the Policy

The policy has been designed in the purview of the Company's existing corporate profile, existing services as well as future growth plans to achieve industry standards/practices against comparable organizations. As the policy is intended to ensure business continuity besides protecting shareholder's interest, the policy shall cover all activities and events which have a potential impact on the business. The policy shall act in conjunction with other policies which are operative or administrative in nature.

The policy shall apply to the entire company and includes Corporate Office, Site Offices, operational / under construction assets as well as any other entity which has an impact of the business operations of the Company.

4. General Principles of Risk Management

The guiding principles for the risk management exercise are as follows:

1. Risk management shall be an integral part of all organizational activities
2. The activity will be structured and comprehensive thereby contributing to organizational results
3. All employees will be a part of the risk management exercise and will have a responsibility to identify, evaluate and manage risks.
4. Risk Management shall be a continuous and iterative process instead of a one-time exercise. It will be dynamic to anticipate future risks and respond to current risks
5. The risk management activity shall be aligned to the corporate objectives, policies and priorities. It will take into account historical and current information, as well as future expectations
6. The risk management exercise will be an integral part in decision making
7. Risk tolerance levels will be regularly reviewed and decided upon depending on the change in company's strategy
8. The occurrence, progress and status of all risks will be promptly reported and appropriate actions be taken thereof.

5. Definitions

The common terminologies used in the Risk Management Policy are as follows:

Table 1: List of Definitions

Terminology	Definition
Audit Committee	Committee constituted in compliance with Section 177 of Companies Act 2013
Compliance Risk	Risk arising out of non-compliance with non-fulfilment of legal, regulatory and statutory requirements
Financial Risk	Risk affecting the balance sheet and access to capital
Operational Risk	Risk arising from procedural vulnerabilities, people and information systems
Risk	Risk is the effect of uncertainty on objectives. It is expressed as a combination of the probability of an event and its consequence. Events with a negative impact represent risks, which can prevent value creation or erode existing value.
Risk Appetite/Risk Appetite	The maximum quantum of risk which the company is willing to take as determined from time to time in accordance with the Risk Strategy of the Company.
Risk Criteria	Terms of reference against which the risk is to be evaluated
Risk Identification	Defines the 'risk' by providing insight into the uncertainty that maybe experienced
Risk Management	Co-ordinated activities required to direct and control the organization with regards to an anticipated risk
Risk Register	A 'Risk Register' is a tool for recording the risks encountered at various locations and levels in a standardized format of Risk Description. (***Annexure B***)
Risk Strategy	The Risk Strategy of a company defines the company's standpoint towards dealing with various risks associated with the business. It includes the company's decision on the risk tolerance levels, and acceptance, avoidance or transfer of risks faced by the company.
Risk Description	A Risk Description is a comprehensive collection of information about a particular risk recorded in a structured manner
Risk Assessment	Risk Assessment is defined as the overall process of risk analysis and evaluation.

6. Risk Management Process

Risk management is a process comprising of a continuous identification, assessment, mitigation and monitoring of risk issues across the organization. The risk framework adopted by UJVNL has been mapped along ISO Standard 31000:2018. Risk management principles and guidelines which are widely utilized across various leading organizations. This process is depicted in the graphics below:

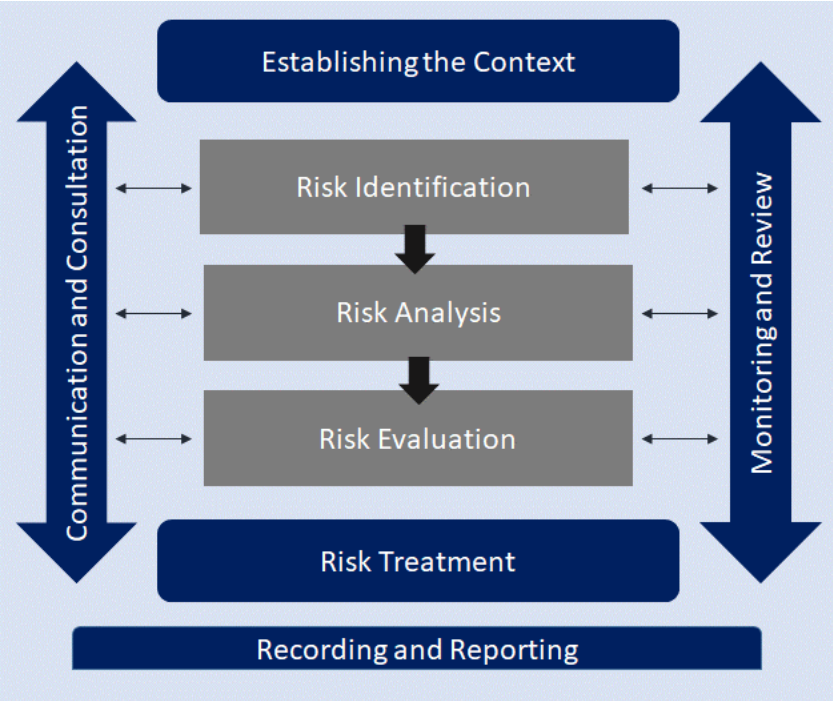

Figure 1:Risk Management Process

6.1 Establishing the Context

Establishing the context implies a detailed understanding and percolation of factors that may lead to origination of risk for the working of UJVN Ltd. The risk may emanate from external factors which may include Social, Political, Cultural, legal, regulatory, financial, technological, economic and environmental factors. Besides, internal factors with respect to operations, decision making, delays can have interdependencies and interconnections with the external environment and may lead to a risk for the organization.

6.2 Risk Identification

The purpose of risk identification is to find, recognize and describe risks that may hinder the organization in achieving the objectives. Risk identification is required

to find, recognize, and describe the specific risks which may hinder the organization in achieving the organization. The following maybe considered for identification of risk:

a. Brainstorming
b. Surveys, interviews and working groups
c. Experimental or Documented knowledge
d. Historical risk list
e. Events occurred

A sample risk matrix classifying risk in broad categories is provided below for reference:

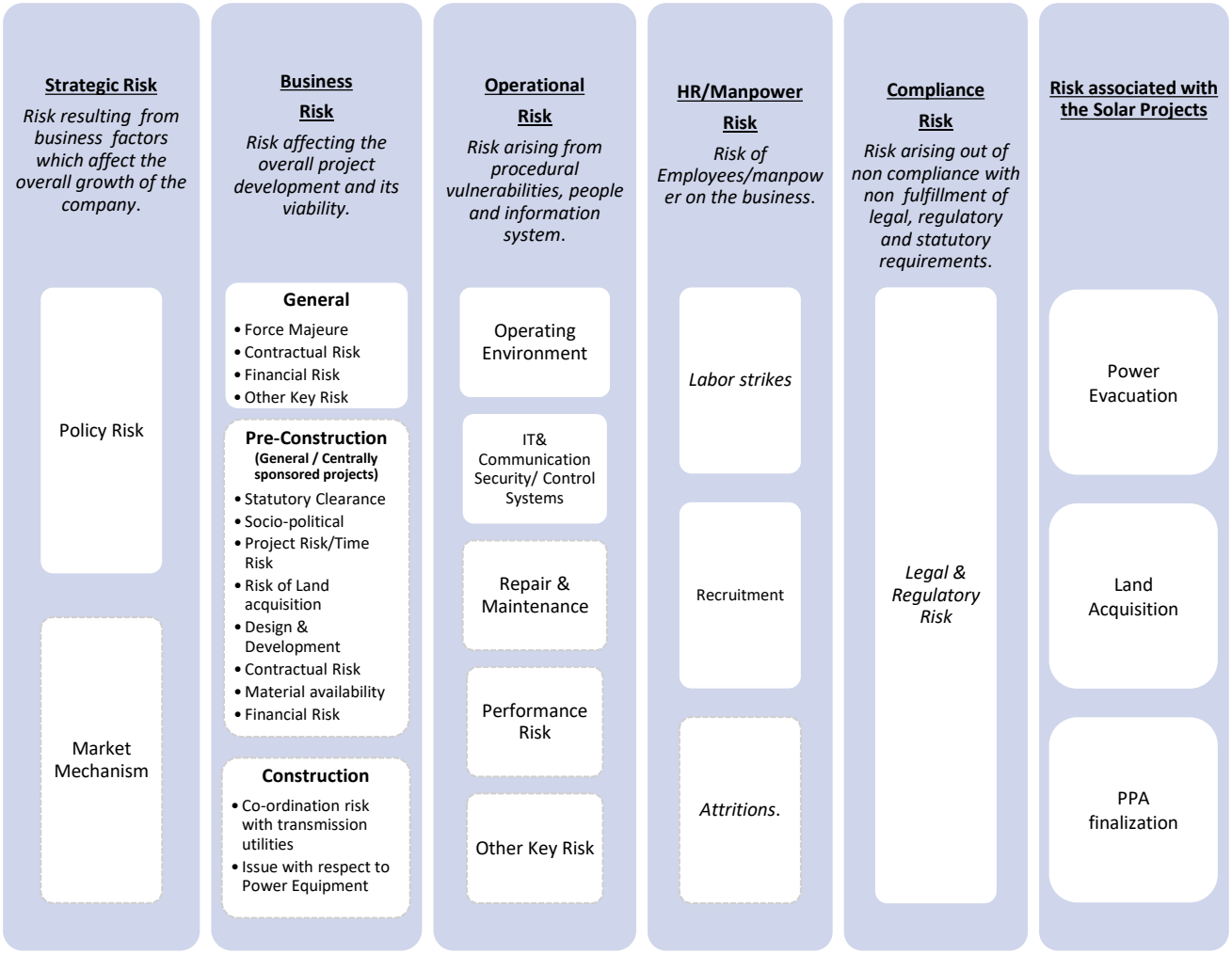

Figure 2: Sample Risk Matrix

6.3 Risk Analysis

Risk analysis is required to understand and gauge the nature of risk and its characteristics as well as appropriately quantify the level of the risk. It is understanding and gauging the likelihood of occurrence of any event and impact of likely to cause if the risk occurs to the business in perse. The purpose of risk analysis is to understand the nature of risk and its characteristics as well as appropriately quantify the level of the risk. The Company has identified two-fold criteria for identification of risks which are as follows:

a. **Likelihood of occurrence of a risk event-** The term "Occurrence" refers to the probability of risk event actually occurring in real sense. This probability can be defined, measured, or determined either objectively or subjectively, and it can be described qualitatively or quantitatively. It is possible to describe the occurrence using general terms or even mathematical concepts, such as a probability or frequency over a specific time period.
   In order to assign probability factors to risks, certain guidelines have been taken into consideration.
   - **Risks with precedence in UJVNL**- Actuals considered as baseline impact
   - **Risks with no precedence in Nigam but risk prevalent in industry**- Based on secondary research
   - **General Risk**- However likely to occur and may have impact on Business/Operations

   To evaluate the likelihood of the risk, any of the following/combination of the parameters from the following scale maybe used:

Table 2: Likelihood Criteria of Occurrence of Risk Definitions

Likelihood	Occurrence
1 - Rare	Risk may occur once in over 5 years
2 – Less Likely	Risk may occur once in 3-5 years
3 - Possible	Risk may occur once in 1-3 years
4 - Likely	Risk may occur once in a span of 12 months
5 – Almost Certain	Risk may occur multiple times in a span of 12 months

b. Magnitude of impact if risk event occurs- The magnitude of impact refers to the extent or severity of the consequences that can occur if a risk event takes place. It represents the scale or intensity of the effects that result from the realization of risk. While assessing the impact of risk, the impact has been examined across multiple parameters to ensure that the assessment considers a wide range of potential consequences. The parameters considered are**:**

- **Financial impact due to generation loss**
- **Impact on Environment, Health & Safety**
- **Operation disruption /delay in work execution / Project delays**
- **Financial impact other than generation loss (eg: Increase in capital cost due to time overrun)**

Table 3: Financial impact due to Generation Loss

Impact	Financial impact / Occurrence
5- Major	More than 10 Crore
4- Significant	2 Crore to 10 Crore
3- Moderate	75 Lakhs to 2 Crore
2- Minor	25 Lakhs to 75 Lakhs
1- Marginal	Less than 25 Lakhs

Table 4: Other impacts

Impact	Environment, Health & Safety	Disruption in project construction / Development / I&P / Delay in work execution	Financial impact other than generation loss (eg: Increase in capital cost due to time overrun)
5- Major	Multiple worker / Third Party fatalities	Disruption in project construction / Development / I&P / Delay in work execution of more than 120 days	Rs.>10 Crore
4- Significant	1. Single Worker / Third Party fatality 2. Multiple injury to worker / Third Party, but non-fatal	Disruption in project construction / Development / I&P / Delay in work execution of 30-120 days	Rs. 2-10 Crore
3- Moderate	Major injury(s) causing loss of workdays	Disruption in project construction / Development / I&P / Delay in work execution of 7-30 days	Rs. 75 Lakhs – 2 Crore
2- Minor	Minor injury(s) causing loss of workdays	Disruption in project construction / Development / I&P / Delay in work execution of 1-7 days	Rs. 25-75 Lakhs
1- Marginal	Medical treatment / restricted workday case	Disruption in project construction / Development / I&P / Delay in work execution upto a day	<Rs. 25 Lakhs

6.4 Risk Evaluation

Risk Evaluation is a combining of the scoring, classification and evaluation on the basis of likelihood and impact to the business and thereby classified the scoring bucket wise based on the severity of the risk vis-à-vis High risk, Moderate Risk and Low Risk. For each of the risks analyzed on the basis of likelihood and impact, a combined score would be determined based on Table 3 and Table 4. The score would be determined as follows:

Table 5: Illustration of Combined Risk Score

	Likelihood (A)	Impact (B)	Combined Score (C=A*B)
Risk A	2	5	10
Risk B	3	4	12
Risk C	3	3	9

The risk would be classified into one of the three zones based on the combined score. The details are as follows:

a. **Critical/High**: - Risks within the red zone are high and would be considered as Critical/High or unacceptable. Such risks would require immediate senior management intervention in order to initiate mitigation plans. Risk within the red zones are categories as "***Risk That Matter***" (Rating >12)
b. **Medium**: - Risks within the yellow zone indicate that the risk moderate and would require intervention of functional heads (Between 8 to 12)
   Low: - Risks within the green zone indicate that the risk is low and can be carried out using routine procedures (Less than 8)

Basis the above, the overall risk classification is shown in the matrix below, known as heat map, which indicates the Risk Zone (High / Medium / Low):

	Impact				
Likelihood	1 Marginal	2 Minor	3 Moderate	4 Significant	5 Major
1-Rare	Low (1)	Low (2)	Low (3)	Low (4)	Low (5)
2-Less Likely	Low (2)	Low (4)	Low (6)	Medium (8)	Medium (10)
3-Possible	Low (3)	Low (6)	Medium (9)	Medium (12)	High (15)
4-Likely	Low (4)	Medium (8)	Medium (12)	High (16)	High (20)
5-Almost Certain	Low (5)	Medium (10)	High (15)	High (20)	High (25)

Figure 3: Heat Map indicating the risk zone

6.5 Risk Treatment

The selection of risk treatment option involves careful balancing in terms of potential benefits derived from adopting a broad strategy for mitigations. This is an iterative process comprising of following:

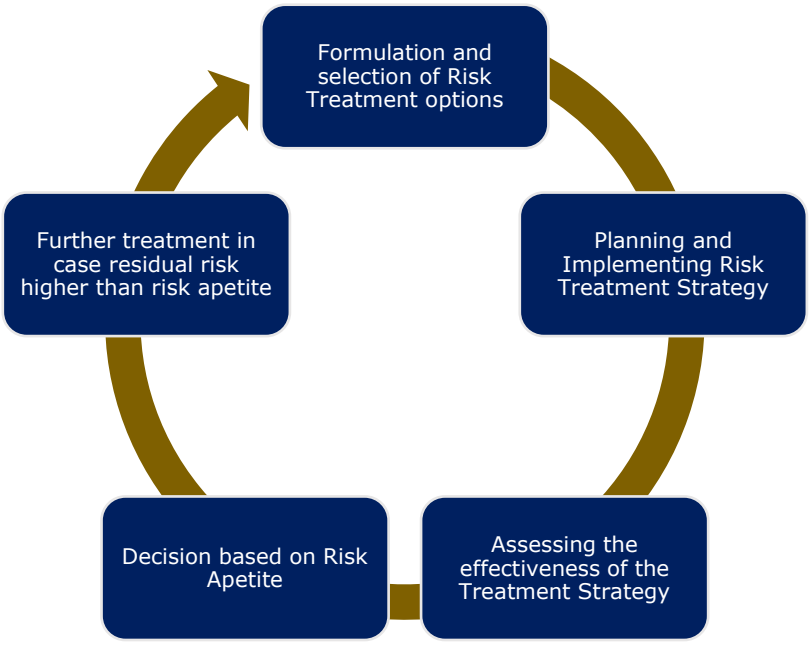

Figure 4: Risk Treatment Matrix

There are four broad Risk strategies that are usually practiced for mitigating risk. These strategies are not necessarily mutually exclusive and some incidents may require a combination of strategies. These strategies are illustrated as follows:

1. **Avoidance:** This strategy involves not performing an activity that could carry risk or doing an activity differently to remove the risk. This strategy is particularly useful in market risks, project risks or customer risk
2. **Risk Transfer:** This strategy involves transferring some aspects of the risk to a third party. This is particularly utilized while mitigating financial risks or risks to capital equipment. The following aspects are required to be considered while utilizing this methodology:
    a. Internal processes of the company for managing and mitigating the risk
    b. Cost benefit analysis for transferring the risk to a third party
3. **Risk Reduction:** This strategy is widely used wherein the activity is continued. However, methods/solutions are employed to bring it to acceptable levels. This can be done through either:
4. **Containment Actions:** Actions that are initiated prior to the materialization of the risk
5. **Contingent Actions:** Actions that are initiated after the materialization of the risk .

6. **<u>Risk Retention:</u>** This implies accepting the possibility of the consequences that may occur as a result of an anticipated risk. This strategy is adopted in the following circumstances:
    a. Events that can't be mitigated cost effectively
    b. Uncontrollable events

This framework is illustrated as follows:

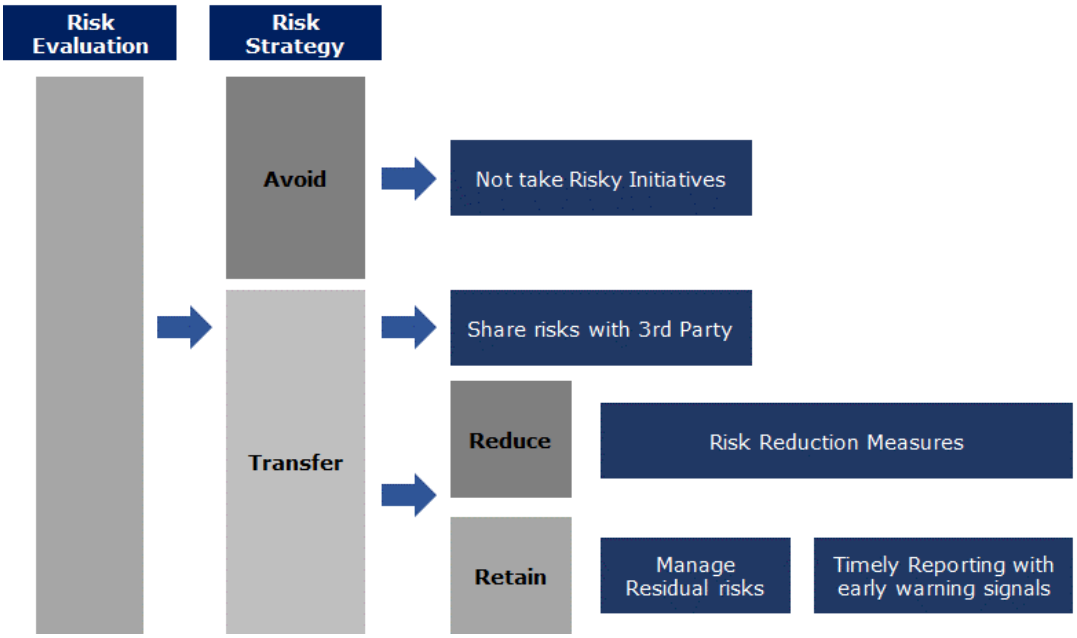

Figure 5: Risk Strategy

7. Risk Matrix

Based on perusal of hydro sector and study of peer organization, the following risks have been identified and are tabulated in the risk matrix as shown below:

Table 6: Risk Matrix

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
1	**Strategic Risk**					
1.1	Policy Risk	Agitation & interference of local public and administration (Ex: Incidences leading to local agitation/ strike. Plant is shut down in such instances)	Incidences leading to local agitation /strike and plant shutdown	Medium-9	• Conduct a comprehensive social impact assessment to understand the concerns and potential issues of the local community. Develop and implement community development initiatives that address their needs and contribute to their well-being. • Establish a robust grievance redressal mechanism to address the concerns and grievances of the local community. • Incorporate environmental and cultural sensitivity in project operations to minimize adverse impacts	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					on the local ecosystem and cultural heritage. • Ensure strict adherence to all relevant legal and regulatory requirements, including environmental and social safeguards. Comply with applicable laws and regulations governing community engagement, environmental protection, and labor rights.	
1.2	Policy Risk	Unilateral Policy changes on river water release	Revision in state policy	Low-1	To keep provisions in the MoU with State Governments (Other than Uttarakhand) and the concerned department of the State and for ensuring minimum guaranteed discharge of water.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
1.3	Market Mechanism	Threat of competition	-	Low-1	To keep a check on the capabilities and competitiveness of the companies in the hydro	Planning Department/Commercial Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					industries getting projects through TBCB in other states.	
2	**A. Business Risks (General Category)**					
2.1	Force Majeure	Impact of natural calamities like floods, heavy rainfall	Continuous	High-25	• Tie-up with weather forecasting companies to get more reliable data on rainfall with high granularity. Forecasting agencies: Governemnt-run agency- India Meteorological Department (IMD), Private forecasting companies: Skymet Weather services, AccuWeather India etc. • Implement a robust flood forecasting and monitoring mechanism to detect and predict potential flood events. This can involve monitoring river water levels, rainfall patterns, and weather forecasts or can use the statistical methodology provided by the CWC.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Early warning systems can help provide timely information to plant operators, allowing them to take appropriate actions. • Conduct regular inspections and maintenance of the hydro power plant infrastructure, including dams, spillways, and gates. This will help in identifying and addressing any potential weaknesses or vulnerabilities that could be exacerbated during floods or heavy rainfall. • Implement effective reservoir management practices to control the water levels during heavy rainfall periods.	
2.2	Force Majeure	Incident of landslides leading to generation loss	Continuous	Medium-12	• Conduct a thorough risk assessment of the project site to identify potential landslide-prone areas.	**Responsibility:** Operations Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Engage geological and geotechnical experts to assess the stability of slopes and identify early warning signs. • Implement a monitoring system to continuously monitor ground conditions and detect any changes that may indicate an increased risk of landslides. • Install early warning systems to provide advance notice of potential landslides. These systems can include sensors, geotechnical instrumentation, and monitoring devices that detect ground movement or changes in slope stability. • Obtain comprehensive insurance coverage that includes protection against the financial losses resulting from landslides.	**Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
2.3	Force Majeure	Incidents of Fire due to flashing, short circuit, etc. leading to disruption in plant operation	Continuous	Medium-8	• Conduct a comprehensive exercise to identify potential fire hazards in the hydro plant. • Install and maintain robust fire detection and alarm systems throughout the hydro plant. • Usage of fire-resistant construction materials in critical areas of the hydro plant, such as control rooms, switchgear rooms, and electrical equipment rooms. • Implement a proactive mechanism to identify and address potential fire hazards. • Training of manpower to deal with various kinds of fire. Conduct drills for developing skill set amongst teams. Allocate responsibilities to key persons in each department	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					to handle any disastrous situation including evacuation of employees, if required. • Periodic checking/ maintenance of fire equipment's	
2.4	Force Majeure	Incidences of Earthquake	Continuous	Low-5	• Obtain a regional geological map, conduct seismological studies, and assess seismic parameters to determine the seismic source for the considered project. • Take the appropriate design steps to reduce the risk of earthquakes.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
2.5	Financial Risk	Recovery of receivables (During the FY 13-14 and 14-15, 21 SHPs and 3 distribution lines were handed over to UREDA as per directives of Govt. of Uttarakhand and approval of board of the company in its 66th meeting held on 12.03.2013. Approx Rs. 29 Cr against the same is yet to be recovered)	-	Medium-12	• Provision in books of account for such receivables • In every petition, a mention of such outstanding amount to be provided so that cognizance of the same can be taken in case any implication on Tariff arises in future.	**Responsibility:** Finance Department **Risk Owner:** Dy. CAO (Central Payment Office & Budget) **Risk Coordinator:** DGM (Central Payment Office & Budget)

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
2.6	Contractual Risk	Risk of conversion of contingent liability into actual liability Liability of payments to contractors in case of negative award in arbitration process. (Contractors have lodge claims aggregating to Rs. 623.90 crore against UJVNL)	An adverse arbitration decision or ruling in favor of the contractors resulting in the conversion of contingent liability into actual liability	High-15	• Follow the dispute avoidance policy, which provides that the disputes should be settled first with proper reconciliation, failing to which arbitration proceedings may be initiated. • Periodic revisiting of SBDs (Standard Bid Document) • Provision for contingent liabilities in books of account to be continued. • Needs to keep the Commission posted continuously and strong pleadings should be continued before the Commission so that the impact of such adverse orders is allowed as pass through along with the recovery of ARR	**Responsibility:** Operations Department **Risk Owner:** Senior Accounts officer & EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle and DGM Commercial
2.7	Contractual Risk	Delay in routine	-	Medium-9	• Implement a robust monitoring system to track the progress of work	**Responsibility:** Operations Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		payment to contractors			completed by contractors. This will help identify any potential delays or issues early on, allowing for prompt resolution and avoiding payment disputes. • Establish streamlined approval processes for contractor invoices and payment requests. Ensure that responsible parties within the company review and approve invoices promptly, minimizing unnecessary delays.	**Risk Owner:** Senior Accounts officer & EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
2.8	Other key Risks	Other incidents like major accident, safety violation, medical emergencies etc, hampering the	-	Low-6	• Ensure timely safety audits and availability of first aid kits at the plant level. • Periodic training of the employee regarding the safety measures needs to carry out.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		operational activity or leading to generation loss.				
2	**B. Business Risk (Pre-Construction Category)**					
2.9	Statutory Clearance(s)	Non recovery of expenses incurred towards initial studies due to refusal of statutory clearance(s) / refusal of the project of Bagasse Cogeneration Plant by State Government	Once in a while	High-15	• Conduct thorough deliberations and discussion with relevant authorities before initiating any project to assess the potential risks, including the likelihood of statutory clearances being refused. This includes evaluating environmental, social, and regulatory aspects to identify potential hurdles early on. • Consider procuring appropriate insurance coverage or indemnity clauses to mitigate the financial impact of non-recovery of expenses in case of clearance refusal.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					Consult with insurance experts to assess the feasibility and coverage options available. • Aggressive pursuance to Central / State Govt. for reimbursement of charges	
2.10	Statutory Clearance	Delay in DPR approval from State/ CEA/ CWC	Once in a while	High-15	• Initiate early engagement with the relevant authorities, including State agencies, CEA, and CWC, to establish a clear understanding of the approval process and requirements. • Implement effective project monitoring and control mechanisms to ensure timely completion of all activities leading up to the DPR submission. • Seek expert advice and guidance from professionals who have experience in dealing with State agencies, CEA, and	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					CWC. Engage with the relevant authorities to seek their inputs and suggestions to ensure the documents address all potential queries beforehand. • Internal team to be developed for assessing the DPR in regular time interval.	
2.11	Statutory Clearance	Delay in forest/ environment clearance/ other statutory clearance	Once in a while	High-15	• Continuous engagement with the relevant authorities responsible for granting forest/environment clearances and other statutory approvals. • Engage with local communities, environmental organizations, and other stakeholders from the project's early stages. Conduct public consultations and seek	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					feedback to address concerns and incorporate suggestions into the project design. • Ensure strict adherence to all relevant regulations, guidelines, and best practices throughout the project lifecycle. This includes compliance with environmental laws, forest conservation norms, and any specific requirements outlined by the authorities. • Implement a robust project management system to track and monitor the progress of the clearance process. Identify potential bottlenecks or delays early on and take necessary actions to address them. Regularly update project stakeholders on the status and expected timelines for clearance approvals.	

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Seek support from State Authorities for relevant support.	
2.12	Socio-political	Delays due to Rehabilitation & Resettlement (R&R) aspects.	Once in a while	High-20	• Initiate R&R planning at the early stages of the project, ideally during the feasibility and design phase. • Conduct a thorough assessment of the affected communities and their specific needs. Engage with local stakeholders, including community representatives, to understand their concerns and aspirations regarding rehabilitation and resettlement. • Conduct a comprehensive social impact assessment (SIA) to identify and evaluate the potential social, economic, and cultural impacts of the project on affected communities. This	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					assessment should form the basis for the development of a detailed R&R plan. • Collaborate closely with local authorities, relevant government agencies, and experts in R&R planning and implementation. • Establish a robust monitoring and evaluation system to track the progress of R&R activities and assess their effectiveness. • A communication team to be formed, engaging the communicator with locals and interlocutory mechanism to be developed.	
2.13	Project Risk / Time Risk	Increase in project cost due to time and cost overrun	Periodic	High-20	• Periodically (monthly/biweekly) review and update the plan throughout the project lifecycle. Implement	**Responsibility:** Project & I&P Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		during Construction & Pre Construction stage			contingency plans to address potential risks that may impact project cost and timeline. • Establish strong and effective communication channels with all project stakeholders, including government agencies, contractors, suppliers, and local communities. Proactively engage with stakeholders to address concerns, resolve issues, and ensure smooth project execution. • Implement a robust cost and schedule monitoring system to track project expenses and progress against the baseline plan. Identify cost and time deviations early and take prompt corrective actions. Conduct regular project audits and reviews to	**Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					ensure compliance with budgetary and schedule target • Collaborate closely with the PMC to leverage their expertise in project management and risk assessment. The PMC should be actively engaged from project initiation to provide guidance and oversight	
2.14	Risk of land acquisition	Delay in acquisition of land for projects	Periodic	High-20	• Collaborate with relevant government authorities and agencies responsible for land acquisition processes. Work towards streamlining the legal and administrative procedures to expedite the acquisition process. Establish clear guidelines for valuation, negotiation, and transfer of land rights to minimize delays and disputes.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Establish mechanisms to resolve disputes amicably, reducing reliance on lengthy legal proceedings • Equitable compensation and resettlement packages that comply with regulations and prioritize the well-being of landowners. • Maintain detailed tracking of all the developments required to build a strong case before SERC during Capital cost approval process.	
2.15	Design and Development	Impact of geological surprises	-	Medium-9	• Conduct a thorough geological survey of the project site before the construction phase. Engage experienced geologists and geotechnical engineers to assess the subsurface conditions, identify potential geological risks,	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					and understand the geological characteristics of the area. Use advanced techniques such as geological mapping, surveys, and drilling to gather accurate data. • Incorporate site-specific engineering design and construction techniques to mitigate the impact of geological surprises. • Conduct regular site inspections and throughout the project lifecycle. Ensure that construction activities comply with the geotechnical design specifications and safety protocols.	
2.16	Design and Development	Hydrological changes due to climate change	-	Low-1	• Use hydrological data only from authentic sources. Carry out independent studies to reaffirm the indications of the	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					hydrological data, if necessary	**Risk Coordinator:** DGM Concerned Project
2.17	Design and Development	Structure failure during testing.	-	Medium-9	• Ensure that the design and engineering of the hydro project structures are carried out by experienced professionals and comply with relevant codes, standards, and best practices. Conduct detailed structural analysis and simulations to identify potential failure points and address them in the design phase. • Develop comprehensive testing and commissioning procedures that include both component-level and system-level tests. Ensure that these procedures are followed diligently and that any structural deficiencies or weaknesses are	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					identified and addressed before putting the structures into operation. • Regularly review and assess the performance of the hydro project structures to identify areas for improvement/strengthening.	
2.18	Contractual Risk	Delays in replacement of contractors due to ongoing litigations	-	Medium-10	• Review the contracts with the current contractors to identify provisions related to delays, disputes, and termination. Assess the contractual rights and obligations of both parties in case of ongoing litigations. Identify any clauses that may allow for replacement of the contractor due to prolonged delays or failure to perform. • Explore the possibility of using alternative dispute	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					resolution mechanisms, such as mediation or arbitration, to expedite the resolution of the ongoing litigations. • Consult legal advisors to explore available legal remedies and termination options in case the ongoing litigations cannot be resolved in a timely manner. • Provide appropriate safeguards in the ensuing contracts that give flexibility for vendor replacement pending in litigation/dispute due to delays by the contractor. Legal support to be taken to provide such unambiguous clauses.	
2.19	Contractual Risk	1. Risk due to delay in:	Periodic	Medium-12	• Following committees to be formed in order to mitigate the risk:	**Responsibility:** Project & I&P Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		a. Local site specific Decisions b. Finalization and approval of additional items required for project c. Approval of time extension in contracts 2. Issues in payment of contractors			a) Technical Advisory Committee for taking timely decisions in technical matters b) Project Implementations Steering Committee for monitoring the progress of work and recommendations on time extension. c) Committee of experts for recommendations on extra items required for project. • Project department to ensure timely approval of payment from concerned department and regular follow-up for release of payment within specific time.	**Risk Owner:** Senior Account Officer & EE-Concerned Project **Risk Coordinator:** DGM Concerned Project
2.20	Contractual Risk	Contractual disputes. (Due to risks not covered in	-	Medium-12	• Establish a clear and mutually agreed upon dispute resolution mechanism within the contract (can include	**Responsibility:** Project & I&P Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		the scope of contractor)			negotiation, mediation or arbitration procedures) • Define indemnification provisions that lays out the responsibility and liability of each party involved in case dispute arising from issue beyond the contractor's scope.	**Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project
2.21	Material availability risk	Delay in availability / Supply of construction material/ availability of material from quarry	-	High-16	• Maintain an appropriated level of inventory for critical materials to avoid last minute delay of work. • Develop a well-defined procurement strategy that includes early ordering of materials, long-term agreements, and maintaining strategic inventory of critical items with long lead times. Procure well in advance, considering their lead times and potential delays due to transportation or other logistical factors.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Need to establish relationships with multiple suppliers and quarry operators to ensure broader supply chain network. • Cultivate strong relationships with suppliers and quarries to encourage them to prioritize the project when facing high demands	
2	**C. Business Risk- Pre-Construction Category (For Centrally Sponsored project including Lakhwar Project**					
2.22	Financial Risk	Delay in the release of funds a. Central share b. State share (There is interdependency of central share to be contributed	-	High-16	• Initiate early engagement with the relevant funding authorities, such as the Ministry of Power, Ministry of Finance, and State government departments responsible for hydro projects. Establish regular communication channels and build relationships with key personnel involved in the fund release process.	**Responsibility:** Project & I&P Department **Risk Owner:** Senior Account Officer & EE-Concerned Project **Risk Coordinator:**

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		pursuant to state government deploying share in the project)			• Maintain regular follow-up and coordination with the funding authorities to track the progress of release of funds • Ensure that all financial procedures and documentation requirements specified by the funding authorities are diligently followed. Prepare and submit necessary financial reports, utilization certificates, and project progress reports in a timely and accurate manner. • Collaborate with relevant authorities to expedite pending approvals and clearances that may be delaying the release of funds.	DGM Concerned Project and DCAO (CSPPO)
2.23	Design & Development	Delay in availability / approvals of	-	High-16	• Initiate early engagement with the CWC and establish clear lines of	**Responsibility:** Project & I&P Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		construction drawings from CWC			communication. Proactively communicate the project requirements, timelines, and expectations to the CWC. Seek their guidance on the necessary procedures and approvals required for construction drawings. • Regular follow-up and coordination with the CWC to track the progress of the construction drawing approvals • Proactive communication with all relevant stakeholders, including the CWC, project owner, design consultants, and contractors. Provide regular updates on the status of construction drawing approvals and any potential delays to management.	**Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project
2	**D. Business Risks (Construction Category)**					

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
2.24	Contractor Management	Contractor related issues (like equipment problems, construction methodology, labor unions, poor labor quality and scarcity of contractor labor)	-	Low-3	• Create a screening filter to eliminate incompetent bids and/or put erring contractors under a negative list to forbid them in future tenders participation. Assignment offers must be widely publicized in order to encourage the participation of as many vendors as possible in the tendering process.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project
2.25	Co-ordination risk with Transmission utilities	Non-availability of Transmission network for evacuation of power (SHPs under construction are facing the issues)	--	High-20	• Initiate early engagement with the relevant transmission authorities, such as Power Grid Corporation of India Limited (PGCIL) or state transmission utility (PTCUL), to understand the existing transmission infrastructure and future expansion plans. • Advocate for investments in the transmission infrastructure by engaging	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					with relevant authorities, policymakers, and stakeholders. • Active participation in the regulatory processes related to transmission network planning and development. Engage with regulatory bodies i.e., Uttarakhand Electricity Regulatory Commission (UERC) to ensure that the power evacuation needs of the hydro projects are considered in transmission network planning and regulatory decision-making. • A separate 220 kV Transmission line and tower for Vyasi / Lakhwar project in hill areas, one going to Jhazara and other going to Sherpur needs to be develop. • Installation of different circuit in different towers	

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					especially in hill areas needs to be done.	
2.26	Power Equipment	Delay in supply of essential equipment	-	Low-2	• Include suitable penalty clause in the power equipment purchase agreement for delay in delivery of project critical power equipment	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project
2.27	Power Equipment	Impact of warranty lapses on account of delay in project commissioning	-	Low-2	• Relevant warranty document must be gathered from OEM and warranty period must be noted and tracked. • Include suitable amendment in the purchase contract for critical power equipments, so that warranty remains valid from the date of commissioning of the project.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project
3	**Operational Risks**					

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
3.1	Operating Environment	Problem of silt	Continuous	Medium-12	• Develop reservoir operation strategies that consider the sedimentation dynamics. Implement sediment flushing techniques to release accumulated sediment during periods of high flow, thereby preventing excessive sediment buildup and reducing the impact on the project's efficiency. • Online silt measurement system to be installed for continuous monitoring. • The concentration of silt should be checked using appropriate tools. • Power plants reservoir capacities must be regularly checked. • Implement a robust sediment monitoring and data collection system to track sedimentation rates,	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					sediment characteristics, and reservoir capacity.	
3.2	Operating Environment	Inventory Risk (Non availability of spares leading generation loss)	-	Low-2	• Implement ABC inventory management for decreasing lead time in procurement • At the time of design look for decreasing the lead time of procurement via preference for domestic equipment • Keep high lead time items above normative limits to prevent such equipment leading to plant operation constraints.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.3	Operating Environment	Generation loss due to water not released by irrigation department	Periodic	Medium-12	• Develop robust water forecasting and monitoring systems to accurately predict and track water availability for power generation. • Seek regulatory support and intervention, if necessary, to ensure compliance with water release obligations. Involve the appropriate regulatory bodies to	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					mediate and resolve disputes related to water allocation and release. • Establish a formal agreement, such as a Memorandum of Understanding (MoU), between the hydro project and the irrigation department. This agreement should outline the responsibilities and obligations of both parties regarding water release for power generation. It should also include provisions for regular review and adjustment of water release schedules based on changing circumstances and requirements. • For new projects, tariff viability of projects must consider the likely availability of water to avoid	

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					any PPA signing related issues at a later date.	
3.4	Operating Environment	Generation loss due to water not released by upstream power projects	Periodic	Low-4	• The company through proactive liasioning, to ensure that such projects which may be detrimental to operation of company's projects do not get sanctioned. • Sign MOU with the State Government for providing sufficient water for power generation to the full capacity of power station.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.5	Operating Environment	Problem of headloss leading to generation loss	Periodic	Low-6	• Ensure daily cleaning of trash rack panel. • Need to install hydraulic trash cleaning machine.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
3.6	IT & Communication Security / Control Systems	Insecure / Inadequate IT System	Continuous	Low-3	• IT Security Policy is already implemented to minimize disruption of IT services due to malware attacks and also pilferage of information.	**Responsibility:** IT Department **Risk Owner:** E&M-1 IT **Risk Coordinator:** DGM (IT)
3.7	IT & Communication, Security/ Control Systems	Threat of cyber attacks	-	Medium-9	• Cyber Security Policy, is already implemented in minimize disruption of IT services due to malware attacks, needs strong pursuance at company level. • Cyber Security policy to be adhered to mitigate any potential attack. Regular updating of firewalls and check mechanisms to ensure that protection system remains updated. • Policy to be periodically checked and updated to address real time challenges and threats.	**Responsibility:** IT Department **Risk Owner:** E&M-1 IT **Risk Coordinator:** DGM (IT)

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
3.8	IT & Communication Security / Control Systems	Obsolete control equipment	Continuous	Low-2	• Installation of the latest state of the art SCADA/Governor/Excitation system may be carried out • Necessary documentation from OEM will be gathered, which indicates obsolescence of the system and discontinuation of support. • Pursuing to the regulator for timely approval for such replacement	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.9	Repair & Maintenance	Inadequate equipment maintenance leading to loss of power generation	-	Low-5	• Periodic preventive maintenance activity will be carried out. • Maintenance Plan must be followed to reduce power generation breakdown losses. • Examine historical data to see if maintenance norms and schedules are working as intended.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Having enough fast-moving and essential spare parts in hand.	
3.10	Repair & Maintenance	Inadequate civil maintenance leading to loss of power generation	-	Low-1	• Periodic preventive maintenance activity will be carried out. Maintenance Plan must be followed to reduce power generation breakdown losses. • Examine historical data to see if maintenance norms and schedules are working as intended.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.11	Repair & Maintenance	Non availability of contractors in case of breakdown at site	-	Low-3	• Identify 2 or more Contractors having specialized capabilities to attend major breakdown of the machines. • Empanel the contractors that would be available at short notice for attending breakdowns at project sites in remote areas.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.12	Repair & Maintenance	Non availability and/or price	-	Low-6	• Risk of non-availability of raw materials to be hedged or minimized by using the	**Responsibility:** Operations Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		hike of raw materials			ERP system, where minimum inventory norms may be prescribed. • Develop multiple vendors so that competition will help in to restrict the price at the lower level.	**Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.13	Repair & Maintenance	Delay in RMU / Plant Maintenance	-	Medium-9	• Regularly review and maintain an adequate inventory of critical spare parts and components necessary for the RMU and plant maintenance. • Establish effective contractor management processes to ensure timely completion of maintenance tasks. • Conduct regular audits and reviews of the maintenance processes, including the RMU maintenance, to identify areas for improvement and ensure compliance with	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					maintenance standards and guidelines.	
3.14	Repair & Maintenance	Delay in seeking approval from UPCL for shut down of power house for maintenance	-	Low-3	Pursuance with UPCL for seeking consent for shutdown.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.15	Performance Risk	Lack of performance and technical audit for power plants leading to sub optimal performance		Low-3	Ensure timely third party or external audits to avoid the risk	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.16	Performance Risk	Deviation Settlement mechanism (DSM))	-	Medium-9	• Meeting with GM/DGM of Power Houses to sensitize against incorrect declaration of capacity.	**Responsibility:** Operations Department

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		(As per the UERC DSM Regulations, 2017, the charges for the deviations shall be paid by the seller in case of under-injection and over-injection)			• Sensitizing Assistant Engineer (O)/Executive Engineer (G) for declaring capacity as per availability of water of the previous day and any likely real time events. • Keeping DSM equipment such as GPS Clock, CTs, PTs, and AMR in healthy condition. • Reviewing the weekly performance and taking corrective action accordingly.	**Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle
3.17	Performance Risk	Non achieving of NAPAF	-	Medium-9	• Develop and implement a comprehensive maintenance strategy for the hydro power plant. This includes regular inspection, testing, and preventive maintenance activities for all critical components, such as turbines, generators, and control systems.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Implement a real-time condition monitoring system to continuously monitor the performance of key components of the hydro power plant. This includes monitoring vibrations, temperatures, pressures, and other relevant parameters. • Maintain an adequate inventory of critical spare parts and components required for the hydro power plant. • Implement a performance tracking system to monitor and report on the plant's availability and downtime. Regularly analyze the data to identify patterns or recurring issues that contribute to non-achievement of the Normative PAF.	

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					• Management may consider assigning KRAs to concerned O&M personnel.	
	Other Key Risk	Delay in processing the procurement proposals/ work proposals	-	Medium-9	• Initiate the procurement process well in advance and allow sufficient time for the preparation of procurement and work proposals. • Develop streamlined procurement procedures and guidelines that clearly define the roles, responsibilities, and timelines for each step of the procurement process. • Maintain a database of qualified and reliable vendors and suppliers for various project requirements. • Promote team building and informal discussions amongst departments for faster coordination and getting timely approvals.	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
3.18	Other Key Risk	Risk to Power houses due to adjacent rivers / runlet and other water carrying drainage	-	High-16	• Incorporate robust design features that enhance the resilience of powerhouses against water-related risks. Consider factors such as flood protection measures, erosion control mechanisms, and appropriate structural reinforcements. • Installation of flow meter in the Up-Streams of adjacent rivers and other water carrying drainage. • Strengthening the bank of rivers / runlet / drainage while obtaining approval from the UERC (Uttarakhand Electricity Regulatory Commission) for incorporating these expenses in the Annual Revenue Requirement (ARR). • Training of GM/DGM (civil) for ensuring the safety from	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle and DGM (Civil)

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					adjacent rivers / runlet, before monsoon season.	
4	**Human Resource / Manpower Risks**					
4.1	Labor Strikes	Generation Loss due to strikes	-	Low-3	• Ensure effective labor management at sites. • Adhere to Labor laws and ensure timely wages as per the law	**Responsibility:** HR Department **Risk Owner:** Senior PO- HR **Risk Coordinator:** DGM (HR)
4.2	Recruitment	Delay in Recruitment	-	Medium-9	• Ensure timely approval for initiating recruitment process against vacant posts. • Ensure timely Unfreezing of vacancies/posts	**Responsibility:** HR Department **Risk Owner:** Senior PO- HR **Risk Coordinator:** DGM (HR)
4.3	Attrition	Manpower shortage	-	Low-2	• Man power planning/assessment and Succession Planning shall be performed annually to establish staffing levels and a systematic process shall be followed for identification of required human capital resources,	**Responsibility:** HR Department **Risk Owner:** Senior PO- HR **Risk Coordinator:** DGM (HR)

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					adequate competencies and the development of strategies necessary to meet these requirements.	
4.4	Skill Development	Competency Mapping and Skill Gap Risk	-	Medium-9	• Conduct a comprehensive assessment of the current competencies and skills within the project team and identify gaps between the required competencies for project roles and the existing skill sets. • Analyze the identified skill gaps to understand their scope and impact on the project's success. • Prioritize the most critical gaps that require immediate attention. • Develop customized training programs and workshops to address specific skill gaps. • Encourage employees to pursue external training and certification programs	**Responsibility:** HR Department **Risk Owner:** Senior PO- HR **Risk Coordinator:** DGM (HR)

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					relevant to their roles or collaborate with universities for knowledge transfer and training. • Periodically review and update competency mapping and skill gap assessments. • Adjust training and development initiatives as needed to address evolving project requirements.	
5	**Compliance Risks**					
5.1	Legal & Regulatory Risk	Non-allowances in Capital Expenditure and Operating Expenses under the regulatory regime.	Periodic	High-15	• Ensuring robust project management and documentation to enable UJVNL to impose liquidated damages (LDs) on contractors who fail to meet their obligations. • Petition filing process should continue to remain robust. • Legal support should be taken while pursuing the matter before the	**Responsibility:** Operations Department **Risk Owner:** EE Generation and Maintenance **Risk Coordinator:** DGM Concerned Circle

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					Commission to increase the chances of recovery of capital cost in totality.	
5.2	Legal & Regulatory Risk	Impact of High court / APTEL Judgment	-	Low-4	• Ensure that such impact is allowed as pass through in the ARR proceedings. • Appropriate submission/representation to be made before commission to allow such impact	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:** DGM Commercial
5.3	Legal & Regulatory Risk	Reduction in ROE by UERC	Periodic	Low-2	• Petition filling process shall continue to remain strong. • Legal support should be taken in order to save the RoE from disallowing by the commission in future Regulations	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:** DGM Commercial
5.4	Legal & Regulatory Risk	Delay in tariff filings leading to suo-moto initiation of tariff proceeding by SERC	-	Low-1	• Timely monitoring and due diligence of State and Central laws and regulation.	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:**

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
						DGM Commercial
5.5	Legal & Regulatory Risk	Timely compliance of directives issued by the SERC In tariff. (Illustration: Repeated follow ups with UPJVNL for the technical details required to determine the GFA. Due to this there is loss of GFA and other associated component like ROE in ARR & depreciation)	-	Low-6	• Timely monitoring and compliance of State and Central laws and regulation.	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:** DGM Commercial

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
5.6	Legal & Regulatory Risk	Time to time changes in tariff regulations notified by CERC / SERC, which affects cash flows and operational results	Periodic	Low-4	• Regular monitoring of regulations and strong representation through legal consultants (if required)	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:** DGM Commercial
5.7	Legal Risk	Risk of court orders adversely affecting hydro power sector. (Eg: Hon'ble National Green Tribunal's vide order dated 09/08/17 directed to maintain	-	Low-2	• Ensure that such impact is allowed as pass through in the ARR proceedings. • Appropriate submission/representation to be made before commission to allow such impact	**Responsibility:** Commercial Department **Risk Owner:** EE Commercial **Risk Coordinator:** DGM Commercial

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
		minimum 15% to 20% of the average lean season flow in the rivers.)				
6	**Risk associated with Solar Business**					
6.1	PPA Finalization	Delay in PPA execution with UPCL	-	High-16	• Maintain strong communication with UPCL on a periodic basis duly informing about project timelines and status of the projects. • Performance guarantees: Request UPCL to provide performance guarantees or financial instruments that ensure their commitment to the PPA terms. These guarantees can provide assurance and minimize the risk of non-compliance or delays. • Stay updated on any regulatory changes or policy shifts that may	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					impact the PPA execution process. Changes in government policies or regulations can lead to delays, so it is important to be aware of any potential risks and plan accordingly. • Explore alternatives to offer bundled power with renewable to provide competitive tariff to UPCL.	
6.2	Land Acquisition	Delay in land acquisition/ handling over by the state government	-	Medium-9	• Seeking timely comments from all concerned stakeholders and addressing its concern. • A compensation mechanism needs to be developed considering the financial impact on livelihood of the project affected people. • Seek support from State Government for land acquisition in a time bond manner.	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
6.3	Power Evacuation	Delay in Power evacuation arrangements	-	High-15	• Initiate early engagement with transmission authorities responsible for power evacuation. Establish open lines of communication and collaborate closely with them from the early stages of project planning. Understand their requirements, processes, and timelines to align the power evacuation plan with the transmission infrastructure development. • Prepare and submit power evacuation proposals to the STU in a timely manner. Provide all necessary technical details, feasibility studies, and impact assessments required for the approval process. • Ensure compliance with all regulatory requirements	**Responsibility:** Project & I&P Department **Risk Owner:** EE- Concerned Project **Risk Coordinator:** DGM Concerned Project

S. No.	Risk Head	Risk Description	Risk Trigger	Risk Rating	Mitigation Plan	Responsibility, Risk Owner and Risk Coordinator
					related to power evacuation. Stay updated with any changes in regulations or grid code standards and adapt the power evacuation plan accordingly.	

8. Risk Governance

A well-defined risk governance structure enables proper governance of risk on a day to day basis. Thus, to implement the governance process, it is proposed to introduce an office of the Chief Risk Officer reporting to Director Operations. The office of the Chief Risk Officer shall be the central point of contact for coordinating all risk related activities. In addition, individual site steering committees will be formed to identify and monitor the risk at site level. Further, a corporate steering committee will be formed which will identify the risks at corporate level and review the risks identified by site steering committees. The following structure provides an overview of the governance structure to be adopted at UJVNL:

Figure 6: Risk Governance Structure

a. Composition, Roles and Responsibilities

Based on the deliberations and recommendations, the "Three Line of Defense" models may be adopted for the management of the risk. All the operational areas shall consist of Risk Owner, as the 1st Line of Defense, who would own, identify, assess and manage the risks in their respective divisions/units. The mitigation officers, as the 2nd Line of Defense, who would monitor, control and mitigate risks aligning with the polices of the Company. Further, Risk Management Committee (RMC) as the 3rd Line of Defense manages the risk level, scoring, governance and decision making. The hierarchy of the "Three Line of Defense" models is shown as below:

1st LINE of DEFENSE	Risk owners	All the operational areas of the UJVNL, i.e., the Power Houses and the corporate office would consist of Risk Owners (not below the rank of the executive Engineers or equivalent), as the 1st line. They would own, identify, assess, and manage the risks in their respective divisions/units.
2nd LINE of DEFENCE	Risk Mitigation Officer	The Mitigation officer (not below the rank of the Dy General Manager) as the "2nd line". They would monitor, control, and mitigate risks aligning with the policies of the Company.
3rd LINE of DEFENCE	Risk Management committee	Risk Management committee (RMC) to be constituted by the Managing Director with the senior officers of the Company, to manage the risk level, scoring, governance, and decision making as the 3rd line. Broadly, the RMC shall have the functions defined under Risk governance structure.

Figure 7: Three Line of Defense

Risk Owner:

Composition: Risk Owner shall be the person with the accountability and authority to manage a risk.

Responsibilities:

Risk Owners will be responsible for identifying the risk at individual sites. The key responsibilities are as follows:

- Identification of new risks
- Reporting risks at Risk Mitigation Officer for further action
- Consolidation and submission of risk review reports as desired by office of Risk Mitigation Officer.

Risk Mitigation Officer:

Composition: Risk Mitigation Officer shall be functional leaders of the individual department at the sites. They would be supported by officers reporting to them at their respective site.

Responsibilities:

Risk Mitigation Officer will be responsible for assessing the risk at individual sites. The key responsibilities are as follows:

- Reviewing of risk identified by the Risk Owner.
- Reporting risks at Site Steering Committee for further action.
- Development and monitoring of risk mitigation plan at site level
- Consolidation and submission of risk review reports as desired by office of CRO.

Chief Risk Officer and Office of the CRO:

Composition: The Chief Risk Officer shall be ED/GM level supported by a team of 7-8 cross functional members.

Responsibilities:

The office of the CRO shall be the nodal department for managing and coordinating all risk related activities. The office will be working closely with all departments to identify, evaluate and mitigate risks. The key responsibilities are listed as follows:

- Identification of risks
- Coordinate all Corporate and Site Steering Committee meetings
- Assist senior leadership in integrating risk management and strategy development based on risks identified
- Facilitate enterprise-wide risk assessments, development and monitoring of mitigation strategies
- Assist the Risk Management Committee in review of risk processes as well as monitoring of identified risks
- Coordinating with individual risk unit owners and compilation of risk registers and review reports
- Effective Alignment between risk management process and internal audit
- Maintenance of Risk Registers.
-

Internal Risk Management Committee

1. Site Steering Committee:

Composition: Site Steering Committees shall be constituted at various sites and shall consist of risk unit owners and being chaired by General Managers responsible for the particular site.

Responsibilities:

- Identification of new risks
- Review of Risk Register
- Discussion and review of risk mitigation plans
- Assisting various units to identify, analyze and mitigate risks
- Identification of areas which require financial support to mitigate the risks
- Escalation of issues to Corporate Steering Committee and CRO

2. Corporate Steering Committee:

Composition: The Corporate Steering Committee shall consist of the key functional heads at ED/GM level and one of the Directors would be chairing the Committee. The CRO will be a part of the Corporate Steering Committee and will act as the coordinator for all activities.

Responsibilities:

- Review the risks identified by Site Steering Committee along with the proposed mitigation plan.

- Identification of risks at Corporate level as well as mitigation plans.
- Ensure implementation of risk mitigation plans at both site and corporate level.
- Preparation and updation of the Corporate Level Key Risk Register and Quarterly reports for the Risk Management Committee.
- Presenting the quarterly risk management update report to the Risk Management Committee.

Risk Management Committee:

Composition: The Risk Management Committee (RMC) shall be chaired by an Independent Director and shall consist of such number of members as the Board may deem fit, subject to the minimum of three (3) Directors. The Risk Management Committee shall review the risk reports finalized by Corporate Steering Committee. They may advise on mitigation measures and inclusion of new risks.

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Responsibilities: The RMC shall perform the following functions:

- Develop risk appetite limit by risk category in consultation with the risk taking business units.
- Appointment of the Risk Owner and Mitigation officers.
- Assess risk mitigation strategies, including the effectiveness of such mitigations in a range of circumstances and recommended alternatives if concerns arise.
- Identify and monitor top risks, internal and external risk and benchmark the same vis-à-vis with the hydro power industry best practices.
- Monitor business activities and report risks, compliance deficiencies and weakness in contract and provide periodical information to the Board and Risk Management Committee.
- The Risk Management Committee Meeting will preferably hold within three (3) months, subject to at least one (1) meeting in every six (6) months in the financial year.

Board of Directors:

The Board of Directors, through its sub-committee the Risk Management Committee, shall oversee the implementation and review the risk management system across the Company. This comprehensive review shall happen on an annual basis.

9. Risk Recording and Reporting

The following reporting structure would be followed for managing the risk:

First Line of Reporting:

- The Risk Coordinator shall develop individual risk cards for discussion in Site Steering Committee coordinated by Office of CRO
- Post the suggestions received in the Site Steering Committee, the individual Risk Coordinator shall finalize the risk card and send to office of the CRO for review and compilation
- Similar process to be adopted for risk at head office level.

Second Line of Reporting:

- The CRO along with the Corporate Steering Committee shall review the risks identified and decide upon the key risks that are to be reported to Risk Management Committee on a quarterly basis
- After the Corporate Steering Committee has approved the risk, the office of the CRO shall record the risks in the risk register and handover the risks with mitigation plans to risk coordinator for further implementation

Third Line of Reporting:

- The Risk Management Committee, through CRO, shall review the risks on a half yearly basis identified by Corporate Steering Committee
- The Risk Management Committee shall apprise the Board on the effectiveness of the procedures undertaken
- The Risk Management Committee shall also apprise the Board for decision on any new/emerging risks faced by the organization in case of exigencies/ emergent conditions.

10. Risk Management Information System (RMIS)

An enterprise-wide integrated Risk Management Information System (MIS) needs to be implemented by the company. Currently risks are captured when the core group prepares project completion report wherein all the risks faced during the project life cycle are compiled. This report also captures various delays that have happened on the project and the key reasons for the same.

However, such information is needed at all levels of the organization to identify, assess and respond to future occurrences of risk events. Pertinent information from both internal and external sources must be captured and shared in a form and timeframe that equips personnel to react quickly and efficiently. Effective communication would also involve the exchange of relevant data with external parties, such as customers, vendors, regulators and shareholders. Further, both historical and current data needs to be collected. Historical data tracks actual

performance against target, identifies trends, correlate results and forecasts performance. Historical data also provides early warning signals concerning potential risk-related events. Current data gives management a real time view of risks inherent in a process, function or unit. This will enable the company to alter its activities as needed in keeping with its risk appetite.

a. Requirement of Risk Register

The company will prepare 'Risk Registers' as an immediate measure. The Risk Registers will be maintained at the Risk Officer level for capturing comprehensively all risks in operating power stations and under-construction projects. Each risk will be identified, categorized and assessed using the methodology as specified in sections of the policy above.

Each Risk Manager would have access to risk registers of all Risk Officers under the span of control and would be responsible for monitoring them. Risk Controller would in turn monitor all risks at the Risk Manager level.

The 'Risk Register' should contain the following information on a broad basis:

a) Description of the risk
b) The impact, should the event actually occur
c) A summary of the planned response, should the event occur
d) A summary of the mitigation plan (i.e. the actions taken in advance to reduce the probability and/or impact of the event)
e) The responsible function / person

Sample Risk register is enclosed as ***Annexure - C***

11. Risk Monitoring

Risk Monitoring is essential to ensure the risk management plans remains relevant. The objective of risk monitoring is as follows:

1. Measure risk management performance
2. Periodically Review Risk Management Framework and its appropriateness in the current context
3. Periodically measure progress against and deviation from risk management plan

a. Risk Review Plan

The risk management calendar is proposed as follows:

Table 7: Risk Calendar

Activity	Timeline
Review of Risk Register maintained by individual Risk Unit Owners	Last week of every month
Consolidation of Risk Register to be submitted to Corporate Steering Committee	First week of every month
Review of consolidated risk register by corporate steering committee	End of every quarter
Risk Management Committee	Preferably hold within three (3) months, subject to at least one (1) in every six(6) months in the financial year.
Board of Directors	Annually

b. Closure of Risks

A risk identified shall be removed from the risk register only under the following conditions:

- Risk mitigated: The risk is mitigated to the desired extent.
- Risk not relevant: The risk is not relevant/applicable due to change in external business Environment
- Risk transferred: The risk has been transferred

12. Review of Policy

The policy will be the guiding document for risk management at UJVNL and will be reviewed as and when required due to the changes in the risk management regulations/ standards/ best practices as appropriate. In any case, the policy will be regularly reviewed semi-annually in December and June every year.

1. Annexure A – Sample Risk Format

S. No.	Risk Head	Risk Description	Risk Rating	Department/Responsibility	Risk Owner	Risk Mitigation Officer
1	Xx	Flood	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
2	Xx	Landslide	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
3	Xx	Safety & health issues, accident, medical emergencies	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
4	Xx	Problem of Silt	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
5	Xx	Problem of Head loss	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
6	Xx	Obsolete control system	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department
7	Xx	Inadequate equipment and civil maintenance leading to loss of power generation	Xx	xxx	Equivalent to Executive Engineer or above	DGM of respective department

2. Annexure B – Format of Risk Register

S. No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating

3. Annexure C – Sample Risk Register for UJVNL

S.No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating
1	XXXX	XXXX	Operational Risk	Hydrological surprises (freezing water, inadequate rainfall etc) leading to loss in availability	1. **Kulhal**: Flood pass at Asan and Dakpathar barrage due to heavy rain. 2. **MB-II** :- Low discharge in river	**1. Kulhal: -** Generation loss = 24.02 MU; Financial loss = ~3.169 Cr. **2. MB-II: -** No Operational & Financial impact	1. **Kulhal**: - Trash rack cleaning machine to be installed at barrage.	XXXX	XXXX
2	XXXX	XXXX	Operational Risk	Generation loss due to water not released by upstream power Projects	1. **Pathri**: - Less demand of irrigation over the stretch of Ganga Canal due to lot of rain fall occurred last year. Also during the maturity of crops UPID released lesser amount of discharge as per demand of required water. 2. **Chilla**: - Excitation problem, TGB vibration, servomotor problem, intake gate problem, Rotor earth fault, UAT problem, Governor problem, oil leakage oil	1. **Pathri**: Due to Less discharge received resulted in lesser generation.	1. **Pathri**:- Regular correspondence & meeting done with UPID to provide Proper Discharge	XXXX	XXXX

S.No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating
					header problem, slipping sparking, transformer protection problem, abnormal sound, Turbine bearing problem, Shaft seal problem, Electrical fault etc.				
3	XXXX	XXXX	Operational Risk	Problem of silt at bottom leading to turbine damage	1. **MB-II** project is situated on Bhagirathi river, which carries highly abrasive quartz particles which leads to turbine damage	-	1. **MB-II**: Sedimentation chamber have been provided at Joshiyara barrage. However Plant is shut down when the silt is more than 3000PPM.		
4	XXXX	XXXX	Operational Risk	Forced outages on account of equipment breakdown	1. **Kulhal**: Rotor E/F, GT cable heating, Intake gate fault, Penstock expansion joint, UAT o/c, exciter lugs overheating, main exciter rotor problem, Main GT failure of Unit A, UAT failure, runner problem. 2. **Dhakrani**: - Old governing system & aging of equipments 3. **Pathri**: - U#1 Due to oil Leakage	**1.** **Kulhal**: Generation loss of 27.83 MU and Financial Loss of ~3.65 Cr. 2. **Dhakrani**: - Financial Loss of Rs. 0.47 crore (Approx.) 3. **Pathri**: Generation loss of 4.35 MU. 4. **Dhalipur**: No generation Loss	1. **Kulhal**: New GT cable for two units has been replaced. Overhauling and seal replacement of expansion joint carried out. Major overhauling with core replacement of GTs has been carried out for two Units and New GT at Kulhal procured in FY 2021-22. All UATs of Unit A, B,C have been replaced with new. 2. **Dhakrani**: - RMU of Power House is under progress.		

S.No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating
					servomechanism. U#3- Due to Maintenance of vibration problem. 4. **Dhalipur**: Governor fault, LA brust. **5. MB-II: -** Excessive silt during monsoon which leads to damage of underwater parts , shaft seals and TGB housing which results in breakdowns necessitating repairs		3. **Pathri**: - Faults rectified as soon as possible. 4. **Dhalipur**: - RMU of the plant is under progress 5. **MB-II**: Ensuring the availability of spares for immediate repair/replacement of the damaged part		
5	XXXX	XXXX	Operational Risk	Problem of silt at bottom of dam leading to turbine damage	-	-	-	-	-
6	XXXX	XXXX	Operational Risk	Cyber attacks	-	-	-	-	-
7	XXXX	XXXX	Operational Risk	Contractual issues leading to delay in completion of R&M activities	1. **Kulhal**: Force measure, improper cost estimation for filling of BOQ of tender, price variation due to global cues, Gap between understanding of customer	1. **Kulhal**: Long term impact may be there due quality of work/supply.	1. **Kulhal**: Role of pre bid meeting is important	XXXX	XXXX

S.No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating
					expectation and actual delivery. 2.				
8	XXXX	XXXX	Operational Risk	Labor unrest such as strikes leading 9to disruption of operations	1. **Kulhal**: - Staff Demand. 2. **Pathri**: - One-day strike on 27 July 2021.	1. **Kulhal**: No Financial Loss 2. **Pathri**: - No generation loss.	-	XXXX	XXXX
9	XXXX	XXXX	Operational Risk	Terrorist activities	-	-	-	-	-
10	XXXX	XXXX	Operational Risk	Natural Calamities disrupting operations	1. **MB-II**- Flood in Bhagirathi river	-	-	-	-
11	XXXX	XXXX	Operational Risk	Significant increases in prices or shortages of building materials may increase our cost of construction	-	-	-	-	-
12	XXXX	XXXX	Operational Risk	Loss of O&M manpower	1. **Kulhal**: - Road accident, Equipment failure.	-	-	-	-
13	XXXX	XXXX	Financial Risk	Significant increases in price of raw materials leading to increased cost	-	-	-	-	-
14	XXXX	XXXX	Financial Risk	Time overrun	1. **Kulhal**: - COVID-19,	-	1. **Kulhal**: - Joint meetings with	-	-

S.No.	Identification Date	Risk Coordinator	Risk Category	Risk Description	Root Cause	Implication	Mitigation Plan	Target Date	Risk rating
					dependency on third party order implementation.		contractor and third party for timely completion of the work.		
15	XXXX	XXXX	Financial Risk	IDC and financing terms	-	-	-	-	-
16	XXXX	XXXX	Financial Risk	Tariff and PPA	-	-	-	-	-
17	XXXX	XXXX	Financial Risk	Delayed payment by Discoms	-	-	-	-	-
18	XXXX	XXXX	Financial Risk	DSM Penalties on account of non-adherence of schedules	1. **Kulhal**: - Timely revision of load schedule. The load is to be revised 6 time block (90 min) before on the SLDC portal for sudden flood pass or shut down condition of machine	-	1. **Kulhal**: - SLDC/UERC may take decision. However constant persuasion is being done by UJVNL.	-	-
19	XXXX	XXXX	Business Risk	Problem of law and order leading to disruptions in operations	-	-	-	-	-
20	XXXX	XXXX	Business Risk	Timely Transmission evacuation	1. **MB-II** - Tripping of 220 kV feeders	1. **MB-II**: - Generation loss of 0.038 MU and Financial Loss of ~.6 lakhs.	-	-	-